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U.S. DEPARTMENT OF COMMERCE
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ATTY. DOCKET NO.
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SERIAL NO.
09/971,902

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

APPLICANT
Peter R. Oeltgen et al.

FILING DATE
October 5, 2001

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(37 CFR 1.98(b))

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U.S. PATENT DOCUMENTS

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

FA	A.R	Bohlinger et al., <u>Interleukin-1 and nitric oxide protect against tumor necrosis factor α-induced liver injury through distinct pathways</u> , Hepatology, 22: 1829-1837, 1995
↓	A.S	Bolling et al., <u>The use of hibernation induction triggers for cardiac transplant preservation</u> , Transplantation 63: 326-329, 1997
↓	A.T	Bolling et al., <u>Delta opioid agonist/antagonist activity and ischemic tolerance</u> , American Heart Association Meeting, Atlanta, GA, Nov., 1999

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

FH ↓	B.R	Bolling et al., <u>Use of "natural" hibernation induction triggers for myocardial protection</u> , Annals Thorac. Surg.: 623-627, 1997
	B.S	Bolling et al., <u>Hibernation triggers and myocardial protection</u> , Circulation 98: II-220 to II-1224, 1998
	B.T	Chien et al., <u>Two-day preservation of major organs with autoperfusion multiorgan preparation and hibernation induction trigger</u> , J. Thorac. Cardiovasc. Surg., 102: 224-234, 1991

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

FH ↓	C.R	Chien et al., <u>Extension of tissue survival time in multiorgan block preparation with a delta opioid DADLE ([D-Ala2, D-Leu5]-enkephalin)</u> , J. Thorac. Cardiovasc. Surg., 107: 965-967, 1994
	C.S	Crain and Shen, <u>Antagonists of excitatory opioid receptor functions enhance morphine's analgesic potency and attenuate opioid tolerance/dependence liability</u> , Pain 84 (2000), 121-131
	C.T	Fryer et al., <u>Opioid-induced second window of cardioprotection: Potential role of mitochondrial K-ATP channels</u> , Circ Res. 1999; 84: 846-851

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

FH ↓	D.R *	House et al., <u>A comparative study of immunomodulation produced by in vitro exposure to delta opioid receptor agonist peptides</u> , Peptides, (1996) 17 (1): 75-81
	D.S *	Kevelaitis et al., <u>Opening of potassium channels: The common cardioprotective link between preconditioning and natural hibernation?</u> , Circulation 99: 3079-3085, 1999
	D.T *	Leist et al., <u>Activation of the 55 kDA TNF receptor is necessary and sufficient for TNF-induced liver failure, hepatocyte apoptosis, and nitrite release</u> , The Journal of Immunology 154: 1307-1316, 1995

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

E.V	E.R	Leist et al., <u>Murine hepatocyte apoptosis induced in vitro and in vivo by TNF-α requires transcriptional arrest</u> , The Journal of Immunology, 153: 1778-1788, 1994
	E.S	Lishmanov et al., <u>Activation of the μ-opioid receptors as a factor increasing heart resistance against ischemic and reperfusion damages</u> , Russian J. Physiol. 1998; 84 (11) (Russian w/ attached English translation)
	E.T	Malaguarnera et al., <u>Elevation of interleukin 6 levels in patients with chronic hepatitis due to hepatitis C virus</u> , Journal of Gastroenterology, 32: 211-215, 1997

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

F.R	Maslov and Lishmanov, <u>Effects of μ- and delta opioid receptor ligands on rhythm and contractility disorders of isolated rat heart in postischemic period</u> , Kardiologiya 1998; 12: 25-30 (Russian w/ English translation)
F.S	Mayfield and D'Alecy, <u>Delta-1 opioid receptor dependence of acute hypoxic adaptation</u> , J. Pharmacol. Exp. Ther. 268: 74-77, 1994
F.T	Morgan, <u>Regulation of human B lymphocyte activation by opioid peptide hormones: Inhibition of IgG production by opioid receptor class (gamma-kappa-, and delta) selective agonists</u> , Journal of Neuroimmunology, Vol. 65, No. 1: 21-30, 1996

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

FH ↓	G.R.	Oeltgen et al., <u>The use of delta-2 opioid agonists for myocardial ischemia protection</u> , Abstract, Experimental Biology 2000, submitted November, 1999
	G.S.	Oeltgen et al., <u>Extended lung preservation with the use of hibernation trigger factors</u> , Ann. Thorac. Surg. 61: 1488-93, 1996
	G.T.	Reisine et al., <u>Opioid analgesics and antagonists</u> , Goodman and Gilman's: The Pharmacological Basis of Therapeutics, 9th Ed., 1995, Section III Drugs Acting on the Central Nervous System, 23: 521-554

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

FH	H.R	Root et al., "Septicemia and septic shock", Part Five of Infectious Diseases, Section 3, Clinical Syndromes, <u>Harrison's Principles of Internal Medicine</u> , 12th Ed., McGraw-Hill, 1991, 502-507
	H.S	Schultz et al., <u>Ischemic preconditioning in the intact rat heart is mediated by δ 1- but not μ or κ-opioid receptors</u> , Circ 97: 1282-1289, 1998
	H.T	Schultz et al., <u>Morphine mimics the cardioprotective effect of ischemic preconditioning via a glibenclamide-sensitive mechanism in the rat heart</u> , Circ. Research. 78: 1100-1104, 1996

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<div style="text-align: center;"> EA ↓ </div>	I.R *	Schultz et al., <u>Evidence for involvement of opioid receptors in ischemic preconditioning in rat hearts</u> , Am. J. Physiol. 268 (Heart Circ. Physiol. 3): H2157-H2161, 1995
	I.S *	Schulz et al., <u>Involvement of activation of ATP-dependent potassium channels in ischemic preconditioning in swine</u> , Am. J. Physiol. 267: H1341-1352, 1994
	I.T *	Schwartz et al., <u>Delta opioid receptors and low temperature myocardial protection</u> , Ann. Thorac. Surg. 68: 2089-92, 1999

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FIX	J.R	Stefano et al., <u>Delta-2 opioid receptor subtype on human vascular endothelium uncouples morphine stimulated nitric oxide release</u> , International J. Cardiology 64: Suppl. 1, S43-S51, 1998
↓	J.S	Thomas et al., <u>Structure-activity relationships of a series of 'D-Ala2-deltorphan I and II analogues: In vitro blood-brain barrier permeability and stability</u> , Journal of Pharmacology and Experiential Therapy, Vol. 281, No. 2: 817-825, 1997
↓	J.T	Thornton, Jr. et al., <u>Opioid peptides and primary biliary cirrhosis</u> , BMJ, Vol. 297, No. 6662: 1501-4, 1988

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OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

F4 ↓	K.R	Toombs et al., <u>Limitation of infarct size in the rabbit by ischaemic preconditioning is reversible with glibenclamide</u> , Cardio. Res. 27: 617-622, 1993
	K.S	Tsutsui et al., <u>IL-18 accounts for both TNF-α- and fas ligand-mediated hepatotoxic pathways in endotoxin-induced liver injury in mice</u> , The Journal of Immunology, 159: 3961-3967, 1997
	K.T	VanWinkle et al., <u>Cardioprotection provided by adenosine receptor activation is abolished by blockade of the K-ATP channel</u> , Am. J. Physiol. 266: H829-H839, 1994

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